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ABSTRACT

Most research on year-round education has focused on the effectiveness of year-round versus traditional-calendar schools. This paper presents findings of a study that examined student differences within a year-round elementary school by attendance cohorts (tracks). Specifically, the study sought to determine track differences in writing achievement. The data were collected from 430 students in grades 2-6 in a southern California elementary school, who were asked to respond to a writing prompt. Students' responses were analyzed by a general linear analysis of variance approach, with track, gender, and grade as the independent variables and writing score as the dependent variable. Findings indicate that students in track A performed significantly better than their counterparts in tracks B and C. Students in track A wrote better with increasing grade level, and students in tracks B and C did not show improvement with increasing grade level. Girls scored higher than boys, and older students received higher scores than did younger students. The higher level of student performance in track A, which featured a more traditional schedule, may have been associated with higher levels of parent interest in their children's placement and the tendency of students to remain in that track. Two tables are included. The appendix contains the scoring guide. (LMI)

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Year-Round School: Are There Student Differences?

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Paper Presented at the Annual Meeting of the American Educational Research Association, April 1995, San Francisco, California.

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ABSTRACT

Four hundred thirty students in Grades 2 through 6 participated in the study. All students were administered a writing prompt, which was scored according to a holistic writing guide by two raters. [The Pearson correlation coefficient was .96.]

Data were analyzed with a general linear model analysis of variance approach, with track, gender, and grade as the independent variables and the score on the writing prompt as the dependent variable. An analysis of the adjusted means by track, gender, and grade indicates that there are significant differences by grade in different tracks. Students in Track A wrote better with increasing grade level, but students in Tracks B and C did not necessarily write better with increasing grade level. In fact, students in Track A outperformed students in other tracks at higher grade levels in some cases. With respect to gender, girls wrote significantly better than boys; and with respect to age, older students wrote better than younger ones.

Year-Round Education: Are There Student Differences?

Year-round education is usually examined in terms of its being more or less effective or efficient than traditional year education. An increasingly important question, however, is whether or not there are significant student differences within schools by attendance cohorts (tracks). Special programs are frequently contained within one track because there are not enough students to make offering the program economically feasible for more than one track. When these programs relate to academic success, difficulty, or failure, they are criticized as a form of differentiated curriculum. For example, if there are enough resources to support one bilingual class or Gifted and Talented Education (GATE) class at each grade level, then those classes are usually placed on the same track so that all students in the bilingual or GATE programs are attending school at the same time. A different question arises when we consider the effects of year-round education and differences within the student population that are not linked to programs such as bilingual or GATE.

These questions are arising because of the findings of past research and reviews of this topic. Zykowski (1991), for example, reports the findings of a 1986 California State Department of Education study, Year-Round Education: Year-Round Opportunities (Quinlan, et al, 1987), which indicate clearly that year-round schools in California serve a proportionately greater number of lower SES (socio-economic status), AFDC (aid to families with dependent children), and LES/NES (Limited English Speaking/Non English Speaking) students than traditional schools.

Since the above populations are frequently linked with lower achievement gains in school and since year-round education has often been viewed as a more positive way of structuring the school year for these populations, other researchers have looked specifically at achievement gains in year-round students, but it is not clear if the school calendar is the significant variable affecting these data. Curriculum revision, level of

teacher competence, and teacher effectiveness among schools are not clearly addressed in these nine studies, either.

There has been speculation about which children and their families enroll or are placed in each track. This topic has not been viewed in the same way as others, primarily because it was assumed that within a school differences would appear primarily by special program or student need. The question has been raised, however, if one track may be seen as more desirable by parents and other tracks as less desirable. If this is the case, then involved, informed parents may register their children for one track and the children of less involved, less informed parents may find that their options are reduced because the preferred track is fully enrolled when they come to enroll. It is also likely that the least preferable track will be the one most of the children who move will be enrolled in during the middle of the school year.

Formulation of the Problem

Most research has concentrated on the effectiveness of year-round vs. traditional school (Gandara and Fish, 1994). The question has been raised if certain groups of children are being better served in year-round vs. traditional schools because some programs can be offered only to one cohort (track) at year-round schools so children with certain characteristics or qualifying for specific programs may all be placed on one track (e.g., bilingual education, Gifted and Talented Education, band/orchestra students, and so on). A question asked less frequently, but equally as important, is whether or not tracks/cohorts may differ for other, less systematic reasons. This study was conducted to answer this question. Specifically, the purpose of this study was to determine track differences with respect to writing achievement.

METHOD

Description of the School

This K-6 elementary school had implemented a year-round school program which was in place for approximately one year before the study described here began. This plan equally distributed the student population into three separate groups (Tracks A, B, and C). The primary goal was to provide the appropriate housing for the total student population. The plan did provide much needed space on this school's campus since only two-thirds of the student population is on campus at any one time.

There are approximately 1181 students in kindergarten through sixth grade; 605 are male and 576 are female. A profile of the student body by ethnic group is as follows: White, 53.5%; Asian, 5.1%; Hispanic, 33.4%; and African-American, 6.7%. There are 37 classroom teachers, three bilingual aides, two special education aides, one music teacher, one speech aide, four Chapter 1 aides, two resource specialists, one library assistant, and one half-time teacher on special assignment.

There are 28 classrooms, a library, and a computer lab. The students are served by the following special programs: School Improvement Program, Gifted and Talented Education, Resource Program, Bilingual ESL Program, Speech and Language Program, Chapter 1 Reading Program, AB 1470 Instructional Technology Grant. Students for all of these programs are present in each of the three tracks.

What was notable to the principal and teachers was that students in one of the tracks seemed to have more discipline problems and to be less receptive to the school environment. They said they were not able to identify any specific problem, only that

one of the groups of students was more difficult and seemed to be less engaged in school in general.

The principal had already determined that the track most like the traditional school schedule was the most popular with parents; that they, in fact, lined up in front of the school hours before enrollment began. One other track was less desirable, but was first- or second-choice for many families. However, one track was the least popular, and most of the children in this track had parents who did not go to school to enroll them. The children were assigned to this track after requests were honored. Since there were more openings in this track than in the others, children moving in the middle of the year were frequently placed in this track, also. He concluded that the effect of this pattern of enrollment was that these children had parents who were less involved and engaged in their children's schooling than parents of the other children and also children who moved more frequently than other children.

Subjects

Subjects were 430 students enrolled in the above-described K-6 year-round elementary school in southern California. There were 232 boys and 198 girls. Eighty-nine students were in Grade 2, 80 in Grade 3, 85 in Grade 4, 90 in Grade 5, and 86 in Grade 6. Children in kindergarten and Grade 1 were not included in the study because of the nature of the measure used.

Procedure

Students were asked to respond to one of the following prompts:

Rainy days can be fun.

OR

Rainy days can be boring.

Each student was given the prompt on the writing response sheet and the researcher read the prompt aloud. Students had twenty minutes to respond to the prompt.

Scoring

Each essay was read by two raters, both of whom were graduate students and former classroom teachers, and scored on a scale of 1 (low) to 6 (high). See Appendix A for Scoring Guide. The Pearson correlation coefficient for the two sets of ratings was .96. If discussion was necessary, it served to reanchor the raters' understanding of the scoring guide. If any disagreements could not be agreed upon by discussion, then a third rater would have evaluated the papers. Since this disagreement did not arise, a third rater was not necessary.

RESULTS

Data Analysis

Data were submitted to Statistical Analysis System (SAS) (1994). A general linear model analysis of variance was used, with track, gender, and grade as the independent variables and the score on the writing prompt as the dependent variable. Sum of squares III was used. For the writing prompt, there was a significant track x gender x grade interaction [$F(8, 427)=2.91$, $p<.05$]. There was also a significant interaction for track x grade [$F(8, 427)=2.57$, $p<.05$]. There was no significant interaction for gender x grade [$F(4, 427)=0.45$, $p>.05$] or track x gender [$F(2, 427)=0.48$, $p>.05$]. There were significant main effects for track [$F(2, 427)=8.55$, $p<.05$], for gender [$F(1,427)=27.34$, $p<.05$], and for grade [$F(4, 427)=82.13$, $p<.05$]. An analysis of the adjusted means by track, gender, and grade indicates that there are significant differences by grade in different tracks. Students in Track A perform significantly better on the writing prompt than students in Tracks B or C. Students in Tracks B and C do not necessarily write better with increasing grade level. In fact, students in Track A

particularly outperform students in other tracks at higher grade levels in some cases. These inconsistencies across track and grade also explain the significant track x gender x grade interaction. Students in Track A perform significantly better on the writing prompt than students in Tracks B or C. Girls write significantly better than boys; and older students write better than younger ones. See Table 1 for descriptive statistics.

DISCUSSION

Arguments for year-round education include its providing more continuous instruction, less learning loss because of the shortened summer vacation, better attendance, fewer dropouts, and less vandalism, to name a few (Ballinger, 1993). However, these expected benefits may not have the same effect on student achievement if the student population is significantly different because of track in school.

Even though there is a limited data source here, one writing sample, the results of this research support other research that there are achievement differences across tracks in year-round schools. One explanation for what occurred in this case is that the principal's and teachers' observation of the students and their tracks is correct. Namely, students in the A Track are better writers and this may well be associated with their parents' interest in their placement, their not moving as much as students in other tracks, their better behavior, and so on. At almost every grade level, students in Track A have higher writing prompt scores than students in Tracks B or C.

Others have noted that the composition of tracks is effected by student attrition. Brekke (1986), for example, found that there was a significant variation from track to track in the average number of years sixth grade students had been enrolled in the school district. The principal of the school where this study took place specifically noted that one track was different from the others because it was less popular than the others, had a lower enrollment, and thus became the track where new students were placed. This

observation is certainly linked to student attrition and the effect this attrition may have on the tracks. However, this study is limited in scope and cannot demonstrate conclusively that attrition is the cause of the differences in student achievement.

In conclusion, there were differences in the student body in this school by track with respect to writing achievement. Year-round education may provide solutions to some problems, such as overcrowding of school facilities. It may also result in different tracks which are actually "schools within a school," as it appears to be doing in this school. The long-range effect of this grouping is unknown, but being cognizant that this may occur is important for school administrators and teachers because there may need to be modification/addition of resources to assist teachers with those tracks where there is lower achievement, where children move more frequently, and where children do not appear to react favorably to the school environment.

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Table 1

Least Square Means for Writing Prompt

Track	Mean
A	5.70
B	4.98
C	4.74
Gender	**Mean**
Boys	4.63
Girls	5.65
Grade	**Mean**
2	2.59
3	4.04
4	5.04
5	6.44
6	7.59

Track x Grade

	Grade				
	2	3	4	5	6
Track					
A	2.93	4.06	6.08	7.16	8.23
B	2.33	4.78	4.17	6.66	6.97
C	2.50	3.26	4.86	5.52	7.54

APPENDIX A

Scoring Guide

Purpose

Can the reader clearly tell where this writing is headed? Is the writing on track, or does it shoot off in new directions?

Content

When you are through reading this writing, can you easily summarize it or retell it in your own words? Do you understand this writing easily?

Organization

Are the main parts of this writing in the right order? Does the writer give you enough information so you know what s/he is trying to accomplish?

Audience

Does the writer have the audience clearly in mind? Does the writer assume too much or too little from the audience?

Language and Style

Is the paper interesting and readable?

Are grammar, punctuation, and spelling ok?

1 = low

6 = High